UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,405	01/02/2004	Jeong Chae Youn	1630-0462PUS1	2851

2292 7590 12/11/2008
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
THOMPSON, JR, OTIS L	

ART UNIT	PAPER NUMBER
2419	

NOTIFICATION DATE	DELIVERY MODE
12/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/749,405	YOUN, JEONG CHAE	
	Examiner	Art Unit	
	OTIS L. THOMPSON, JR	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-8 and 17-19* is/are allowed.

6)☒ Claim(s) *9-16 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments, filed August 5, 2008, with respect to claims 1 and 17 have been fully considered and are persuasive. The rejection of claims 1 and 17 has been withdrawn. Accordingly, claims 1-8 and 17-19 are allowed.

2. Applicant's arguments filed August5, 2008, with respect claims 9, 13, and 20 have been fully considered but they are not persuasive.

Regarding claim 9, Applicant argues that Tomishima does not teach or suggest **lowering a data read speed when the play speed equals a predetermined basic speed and the data reading has failed.** Applicant further notes that if Examiner believes that these features are obvious over Tomishima, then references should be provided. Examiner respectfully disagrees. Examiner notes that in section 14 of the non-final rejection dated May 5, 2008, Applicant's Admitted Prior Art is cited in reference. Specifically, paragraph 0004 of Applicant's specification is cited as teaching the *predetermined basic speed* as being the speed at which a sequential play operation is being reproduced, while Tomishima is cited as teaching that *data read speed is lowered when the data reading has failed.* Applicant further discloses in paragraph 0005 that reading data at a speed of 8x would overflow the buffer when data is being transferred at a speed of only 1x, at which the data reading would be paused. Based on broadest reasonable interpretation, pausing the data reading at buffer overflow does read on *lowering a data read speed when the play speed equals a predetermined basic speed* because pausing inherently presents a decrease in reading speed. Although pausing lowers the data read speed to zero, pausing still encompasses lowering.

Furthermore, in view of the teachings of Applicant's paragraph 0005, it is obvious that if a read speed of 8x is overflowing the buffer, then in order to stop buffer overflow at least one of two things needs to occur: either the reading speed needs to be paused (i.e. decrease down to zero) or the reading speed needs to decrease to a value lower than 8x while allowing the playback speed to remain the same.

Regarding claims 13 and 20, Applicant argues that Youn does not teach or suggest identifying a transfer rate of data temporarily stored in a buffer, **in a sequential play mode for sequentially reading and reproducing data recorded on the optical disc**. Examiner respectfully disagrees. Youn teaches detecting the transmission speed Vt of the data transmitted to the PC [i.e. identifying transfer rate] and the relation of Vt to the reproduction speed Vr as noted by Applicant. Youn further discloses that in the method, an output image is prevented from temporary pausing and noise images such as a flicker (See Abstract). This disclosure in the abstract teaches that a sequential play mode is inherent because it prevents pausing of an image. As is well known in the art, an image that can be paused is some type of motion picture image (i.e. video or movie), which is inherently performed in a sequential play mode from an optical disc.

For these reasons, the rejections of claims 9-16 and 20 are maintained.

DETAILED ACTION

1. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomishima (US 6,032,276).

2. **Regarding claim 9,** Tomishima discloses *a method for controlling a play speed in an optical device, the method comprising the steps of:*

a. *Reading data from an optical disc* (Column 3 lines 21-25, see "...reading operation...");

b. *Lowering a data read speed when the data reading has failed* (Column 3 lines 21-39, see "…sequential reading operation…data is continuously read...until defective data is detected...reducing the revolution speed…", i.e. lowering the data read speed of the recording medium; Column 3 lines 28-31, see "…by reducing revolution speed...error is corrected [i.e. the data can be read]…"; therefore revolution speed is read speed).

Tomishima does not specifically disclose *determining whether or not a play speed of the read data equals a predetermined basic speed and lowering the data read speed when the play speed equals the predetermined basic speed.*

However, it is well known in the art that a basic play speed, or reproduction speed (i.e. transfer rate of data from a buffer of an optical disc device), is 1x (i.e. *predetermined basic speed*) (See Paragraph 0004 of Applicant's Specification). As Applicant discloses in paragraph 0005, reading data at a speed of 8x would overflow the buffer when data is being transferred from the buffer at a speed of only 1x. Since Tomishima teaches the reducing of the revolution speed (i.e. read speed; revolution speed is the speed at which the pick-up is able to read the data) in the presence of error, the combination of Tomishima and the basic play speed, which is well known in

the art, renders the undisclosed teaching of the basic play speed by Tomishima obvious.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Tomishima to specifically include the teachings of determining if the play speed equals a basic speed and lowering the read speed in such a case in order to prevent buffer overflow and to allow an optical disc device to retry a reading operation at a lower speed when it has failed at a higher speed.

3. **Regarding claim 11,** Tomishima discloses *that the determination of whether or not the data reading has failed is based on whether or not a reading of data addresses from the optical disc has failed* (Tomishima, Column 2 line 66 - Column 3 line 5, see "...Sub-Q data...block position in the track of an optical disc where data to be read is located...error signal is output from signal servo processor if the data [i.e. Sub-Q data, i.e. data addresses] is not read...").

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomishima (US 6,032,276) as applied to claim 9 above, and further in view of Harold-Barry (US 5,995,462).

5. **Regarding claim 10,** Tomishima discloses the claimed invention above as well as *lowering the data read speed, if the data reading has failed* (Column 3 lines 21-39, see "...sequential reading operation...data is continuously read...until defective data is detected...reducing the revolution speed...", i.e. lowering the data read speed of the

recording medium; Column 3 lines 28-31, see "...by reducing revolution speed...error is corrected [i.e. the data can be read]..."; therefore revolution speed is read speed) but fails to specifically disclose that *in step (a), the data reading is stored in a sequential fashion, and the data reading is stopped temporarily when a data overflow occurs in a buffer, and is resumed from a position where the data reading has stopped previously after a predetermined time elapses or when the data in the buffer is reduced to a predetermined amount or less;* and the condition of lowering the data read speed, if the data reading has failed *when the data reading is resumed from the stopped position in the step (a).*

However, Harold-Barry discloses, referring to figure 3, that a CD controller 33 writes decoded data sequentially in the buffer memory 35 (FIFO buffer) (i.e. *storing in a sequential fashion*) after receiving data read from the disc by the read head 32. The address generator 36 also produces sequential read addresses to allow the data to be read sequentially from the buffer memory 35. When the buffer memory becomes full, writing of data is inhibited (i.e. *data reading is stopped temporarily*) for a time (i.e. *predetermined time elapses*) and then resumed from where the stop occurred (i.e. *resumed from a position where the data reading has stopped previously*) when the buffer memory is emptied by a given amount (i.e. *reduced to a predetermined amount or less*) after a fixed number of revolutions of the disc (Column 7 lines 47-53 and 59-63). Harold-Barry further discloses that data is written into buffer memory at a rate that is greater than that at which it is read out (for example, twice the rate). Harold-Barry states that it is preferred that this doubled rate writing is maintained, but it would be

possible to only use the faster rate (i.e. double rate) when recovering from shock interruptions (Column 7 lines 53-59). In other words, it is possible reduce the read speed when resuming writing after a buffer overflow occurs. Harold-Barry's method obviously prevents the buffer memory 35 from overflowing with data read from the optical disc and written to buffer memory.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Harold-Barry into the system of Tomishima in view of Youn in order to prevent overflowing of the buffer which contains data read from an optical disc.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomishima (US 6,032,276) as applied to claim 9 above, and further in view of Kudora et al. (US 6,269,059 B1).

7. **Regarding claims 12,** Tomishima discloses that *data addresses are sub-Q information when the optical disc is a CD* (Tomishima, Column 2 line 66 - Column 3 line 5, see "...Sub-Q data...block position in the track of an optical disc where data to be read is located...") but fails to specifically disclose that *data addresses are ID information when the optical disc is a DVD.*

However, Kudora et al. discloses that information that is recorded on a DVD-R is constructed of a plurality of data sectors. One data section is constructed of ID information indicating the starting position of a data sector (Column 5 lines 35-40). This structure obviously allows for disc identification and error detection in a DVD.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Kudora et al. into the system of Tomishima in view of Youn in order to allow for disc identification and error detection in a DVD.

8. Claims 13, 15, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Youn (US 6,493,298 B1) in view of Tomishima (US 6,032,276).

9. **Regarding claims 13 and 20,** Youn discloses *a method and optical disc device for controlling a play speed in an optical disc device, the method comprising the steps of:*

c. *An identifying unit for identifying a transfer rate of data temporarily stored in a buffer* (Column 4 lines 39-44, see "...data, temporarily stored in the buffer 15 is transmitted to the personal computer...transmission speed Vt...", i.e. transfer rate; Column 4 lines 39-44, see "...MICROCOMPUTER 18 [Figure 3] detects...Vt...Vr...", i.e. identifying unit);

d. *A play speed adjusting unit for selectively varying a current play speed based on the results of step (a)* (Column 4 lines 44-46, see "...reproduction speed Vr of the data read and reproduced...", i.e. play speed; Figure 4 labels S33 and S35, Vt compared to Vr, labels S34 and S36, data reproduction speed changed based on S33 and S35, i.e. selectively varying a current play speed; Figure 4 label 16, see "I/F", i.e. play speed adjusting unit; Column 4, lines 10-15,

see "...MICROCOMPUTER...interface unit 16 to variably control the reproduction speed...").

Youn does not specifically disclose *identifying whether or not address information of an optical disc is normally detected, in a sequential play mode for sequentially reading and reproducing data recorded on the optical disc.*

However, Tomishima discloses *a sequential play mode for sequentially reading and reproducing data recorded on the optical disc* (Column 3 lines 21-25, see "...sequential reading operation...", i.e. sequential play mode). Tomishima further discloses *identifying whether or not address information of an optical disc is normally detected* (Column 2 line 66 - Column 3 line 5, see "...Sub-Q data...block position in the track of an optical disc where data to be read is located...error signal is output from signal servo processor if the data [i.e. Sub-Q data, i.e. data addresses] is not read..."). The features taught by Tomishima allow the method to provide error correction and maximum reading speed of recorded data on an optical disc (Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Tomishima into Youn in order to provide error correction and maximum reading speed of recorded data on an optical disc.

10. **Regarding claim 15,** Youn in view of Tomishima does not specifically disclose that *step(b) lowers the current play speed of the optical disc device when the identified data transfer rate corresponds to a predetermined basic speed and when the address information of the optical disc is abnormally detected* .

However, Youn in view of Tomishima does disclose that when a transmission velocity is less than a reproduction velocity, the reproduction velocity is decreased (Youn, Figure 4 labels S35 and S36, where Vt is the transmission velocity, i.e. *transfer rate,* and Vr is the reproduction velocity, i.e. *play speed*). The predetermined basic speed is well known in the art because it is a basic speed for all optical disc devices. Youn in view of Tomishima further discloses the state of *address information of the optical disc being abnormally detected* (Tomishima, Column 2 line 66 - Column 3 line 5, see "...Sub-Q data...block position in the track of an optical disc where data to be read is located...error signal is output from signal servo processor if the data [i.e. Sub-Q data, i.e. data addresses] is not read…").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the combination of Youn in view of Tomishima to specifically include the teaching of a predetermined basic speed since the predetermined basic is one that is well known to exist for all optical disc devices.

11. **Regarding claim 16,** Youn in view of Tomishima does not specifically disclose *performing a re-try play control operation for temporarily stopping the data reading, and repeating, a predetermined number of times, an operation for reading a recording position where the data reading has failed when the data transfer rate does not correspond to the predetermined basic speed and when disc defects occur.*

However, it is well known in the art to perform a retry operation to read a defected portion of a disc in order to try to recover data that is encoded on that portion of the disc. Furthermore, this retry operation is not attempted endlessly, but only a

specific number of times before the optical disc device determines that data is inaccessible.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the combination of Youn in view of Tomishima in order to attempt to recover data that is encoded on a defected portion of a disc.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Youn (US 6,493,398 B1) in view of Tomishima (US 6,032,276) claim 13 above, and further in view of Kudora et al. (US 6,269,059 B1).

13. **Regarding claim 14,** Youn in view of Tomishima discloses *identifying whether or not sub-queue information is normally detected when the optical disc is a CD* (Tomishima, Column 2 line 66 - Column 3 line 5, see "...Sub-Q data...block position in the track of an optical disc where data to be read is located...") but fails to specifically disclose that *identifying whether or not disc identification information is normally detected when the optical disc is a DVD.*

However, Kudora et al. discloses that information that is recorded on a DVD-R is constructed of a plurality of data sectors. One data section is constructed of ID information indicating the starting position of a data sector (Column 5 lines 35-40). This structure obviously allows for disc identification and error detection in a DVD.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to incorporate the teachings of Kudora et

al. into the system of Tomishima in view of Youn in order to allow for disc identification and error detection in a DVD.

Allowable Subject Matter

1. Claims 1-8 and 17-19 are allowed.

2. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or adequately suggest each and every element of the claimed invention. Independent claim 1 recites *a method for controlling play speed in an optical disc device, the method include (a) reading data from an optical disc, (b) determining whether or not the reading in step (a) is a sequential reading operation, (c) lowering a data read speed of the optical disc if the data reading has failed, when the step (b) determines that the data reading is a sequential reading operation, and (d) selectively varying a current play speed based on the results of step (b), when the step (b) determines that the data reading is not a sequential reading operation.* The combination of Tomishima in view of Youn, see Non-Final Rejection dated May 5, 2008, does not adequately teach or suggest steps (b), (c), and (d). Tomishima teaches a sequential reading operation, but Youn teaches varying the speed in reading and reproduction according to a transmission rate or residual amount of stored data. Independent claim 17 recites similar features in a varying scope and is thus allowed for the same reasons above.

For these reasons, claims 1-8 and 17-19 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OTIS L. THOMPSON, JR whose telephone number is (571)270-1953. The examiner can normally be reached on Monday to Thursday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on (571)272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Otis L Thompson, Jr./
Examiner, Art Unit 2419

December 4, 2008

/Chirag G Shah/

Supervisory Patent Examiner, Art Unit 2419